

What Is Claimed Is:

1 1. A method for enhancing effective timing margins and reliability of
2 a digital system bus, comprising:
3 monitoring the digital system bus to determine a data flow between
4 devices on the digital system bus; and
5 if an absence of data flow between devices on the digital system bus is
6 detected;
7 generating a pseudo-data signal, and
8 transmission the pseudo-data signal on the digital system
9 bus, in order to keep the digital system bus active so that
10 subsequent transmissions do not suffer from effects caused by an
11 inactive digital system bus.

1 2. The method of claim 1, further comprising terminating the pseudo-
2 data signal abruptly when the digital system bus is needed to transmit real data.

1 3. The method of claim 1, wherein the pseudo-data signal is a pre-
2 determined pattern sequence.

1 4. The method of claim 1, wherein the pseudo-data signal is a
2 continually changing pattern sequence generated by a pseudo-random generator.

1 5. The method of claim 1, wherein the pseudo-data signal is a
2 continually changing pattern sequence generated based on previous transitions on
3 the digital system bus to maintain a substantially equal number of high and low
4 transitions on the digital system bus.

1 11. The apparatus of claim 8, further comprising a pseudo-random
2 generator configured to generate a continually changing pattern sequence for the
3 pseudo-data signal.

1 12. The apparatus of claim 8, wherein the pseudo-data signal is a
2 continually changing pattern sequence generated based on previous transitions on
3 the digital system bus to maintain a substantially equal number of high and low
4 transitions on the digital system bus.

1 13. The apparatus of claim 12, wherein the pseudo-data signal is
2 generated by software, wherein the software executes on a central processing unit
3 associated with a host system.

1 14. The apparatus of claim 8, further comprising an addressing
2 mechanism that is configured to direct the pseudo-data signal to a trash bin
3 address, wherein the trash bin address is not used by devices on the digital system
4 bus.

1 15. The apparatus of claim 8, further comprising an idle command
2 generating mechanism that is configured to generate an idle command in
3 conjunction with the pseudo-data signal, wherein the idle command informs
4 devices on the digital system bus not to use the pseudo-data signal.

1 16. The apparatus of claim 8, wherein effects caused by the inactive
2 digital system bus include a first pulse distortion effect caused by temperature and

3 voltage changes associated with a first pulse after an idle period on the digital
4 system bus.

1 17. The apparatus of claim 8, wherein effects caused by the inactive
2 digital system bus include a power supply effect associated with the digital system
3 bus returning to a constant load level after an idle period on the digital system bus.

1 18. The apparatus of claim 8, wherein effects caused by the inactive
2 digital system bus include a transmission line mis-matching effect associated with
3 signal reflections on the digital system bus caused by mis-matched impedance on
4 the digital system bus.

1 19. The apparatus of claim 8, wherein effects caused by the inactive
2 digital system bus include temperature effects associated with signal driver
3 transistors being held in a constant state of conduction during an idle period on the
4 digital system bus.

1 20. The apparatus of claim 8, wherein the generating mechanism is
2 further configured to generate the pseudo-data signal in a manner such that
3 crosstalk is minimized across the digital system bus.

1 21. A computer system that facilitates enhancing effective timing
2 margins and reliability of a digital system bus, comprising:
3 a central processor unit coupled to the digital system bus;
4 a memory subsystem coupled to the digital system bus;

1 a monitoring mechanism that is configured to monitor the digital system
2 bus to determine a data flow between the central processor unit and the memory
3 subsystem on the digital system bus;
4 a generating mechanism that is configured to generate a pseudo-data signal
5 if an absence of data flow between the central processor unit and the memory
6 subsystem is detected; and
7 a transmission mechanism that is configured to broadcast the pseudo-data
8 signal on the digital system bus, in order to keep the digital system bus active so
9 that subsequent transmissions between the central processor unit and the memory
10 subsystem do not suffer from effects caused by an inactive digital system bus.